

REMARKS

Claims 5, 9-10, 12-14, 30, 33, and 44-46 are currently pending before the Examiner. Claim 10 has been amended. Support for the amendment to claim 10 may be found, *e.g.*, at page 52, line 20, to page 53, line 6 of the instant specification. Thus, the amended claim is fully supported by the instant specification and no new matter has been introduced.

1. The Rejections Under 35 U.S.C. § 102 Should Be Withdrawn

Claim 10 is rejected under 35 U.S.C. § 102(b), as being anticipated by NCBI online, Accession No. AC008687 (hereinafter “AC008687”).

Claim 10 has been amended. As amended, claim 10 is directed to an isolated nucleic acid molecule comprising a nucleotide sequence encoding a polypeptide comprising an amino acid sequence having one or more conservative substitutions to SEQ ID NO: 8 or a complement of said nucleotide sequence. AC008687 has different amino acid sequence as compared to SEQ ID NO: 8, and has non-conservative substitutions. Therefore, Applicants believe that the rejection under 35 U.S.C. § 102 has been obviated and should be withdrawn.

2. The Rejections Under 35 U.S.C. § 112, First Paragraph, Should Be Withdrawn

Claims 5, 9, 10, 12-14, 30, 33 and 44-46 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. In particular, the Examiner found Applicants’ previous argument non-persuasive because (1) the specification fails to provide an enabled use for a modulator of the potassium channel; (2) an assertion that a protein is capable of transporting potassium ions is not a specific and substantial utility; and (3) one of ordinary skill would not know what the physiological or pathological function of a polypeptide would be based only on its structural similarity to the family of voltage gated potassium channels.

Applicants respectfully disagree. As discussed in the Amendment Under 37 C.F.R. § 1.111, filed on June 16, 2004, and in the attached Dr. Daniel Rieger’s Declaration, it is Applicants’s position that the instant specification enables a person of ordinary skill in the art to use the claimed nucleic acids to identify therapeutics that modulate the Kv channel function of the polypeptide of SEQ ID NO: 8, and thereby treating disorders such as diabetes or neuromuscular disorders. Moreover, as discussed in Dr. Daniel Rieger’s Declaration, the

claimed nucleic acids are highly expressed in skeletal muscle as compared to other tissue types. Thus, it can be used to differentiating skeletal muscle from other tissue types in diagnostic assays as taught in the specification at, *e.g.*, page 98, line 6, to page 100, line 16. For example, it can be used to differentiating a lung metastasized cancer that is skeletal muscle origin from normal lung tissues or cancer that is lung tissue origin. As discussed in Dr. Daniel Rieger's Declaration, this use of the claimed nucleic acids is also enabled by instant application.

In view of the foregoing, Applicants assert that the instant specification fully enables the claimed invention. Thus, the rejection under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement, should be withdrawn.

CONCLUSION

Applicants respectfully request that the amendments and remarks made herein be entered and made of record in the file history of the present application. Applicants respectfully submit that the pending claims are in condition for allowance. If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

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Respectfully submitted,



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Enclosures